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ABSTRACT

This teaching guide is part of a series of materials developed, with input from adult learners, to aid adult literacy teachers in incorporating health education into the curriculum. This guide aims to help teachers to provide adult students with information about good nutritional habits and positive health behaviors that will substantially reduce the risk of poor overall health. The guide provides the goals and objectives of the course and background information on healthy eating and steps to improve health. It provides a basic eating plan for all ages, discusses nutritional differences for adults, pregnant women, and children, and fad diets. Sample lessons are provided for label reading, recipe analysis, sources of nutrients, how marketing affects food choices, and community resources. The guide includes handouts, answer keys, a list of eight resources, and a glossary of terms. (KC)

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HEALTH PROMOTION FOR ADULT LITERACY STUDENTS

An Empowering Approach.

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Nutrition: Eating for Better Health

TEACHER'S GUIDE

The University of the State of New York • The State Education Department
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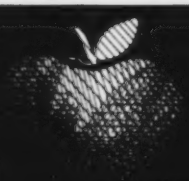
HEALTH PROMOTION FOR ADULT LITERACY STUDENTS

An Empowering Approach



Nutrition: Eating for Better Health

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Nutrition: Eating for Better Health

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NUTRITION: EATING FOR BETTER HEALTH

INTRODUCTION

A recent informal survey of adults enrolled in literacy programs revealed that students want to learn about health issues as part of their regular classes. When asked about what they needed to learn about, they cited nutrition as very important. Consequently, the New York State Education Department funded the Hudson River Center for Program Development, Inc. to research and create a health curriculum and instructional guides.

In developing the series, we knew that it must be "user friendly." You do not have to be an expert. The guide emphasizes using media and community experts as resources, and the didactic material can be integrated into lessons other than health. Students will be able to improve their reading, writing, and reasoning skills at the same time they are learning important facts on health-related issues.

We hope you will find this module helpful in teaching adults about nutrition. Knowledge and application of preventive measures and healthy life-style habits become increasingly vital in our complex world.

GOALS AND OBJECTIVES

The goal of this guide is to provide adult students with information about good nutritional habits and positive health behaviors which will substantially reduce the risk of poor overall health.

Upon completion of this instruction, students will:

1. Understand the fundamentals of balanced nutrition, the economics of choosing nutritional foods, how to read labels for nutritional value, and proper food storage and preparation.
2. Understand how a balanced nutritional diet can be utilized to maximize good health; be able to foster growth of good nutritional habits for themselves and their families.
3. Be aware of the physical, psychological, and social impacts of proper nutrition on oneself.
4. Be aware of the differences in proper nutrition for babies, children of different ages, and adults.
5. Be able to identify community resources for further information.

BACKGROUND INFORMATION

Healthy Eating

The Standard American Diet (S.A.D.) is often just that — sad. Our culture has conditioned us to believe that our salt and sugar intake levels are normal, and that processed foods taste better. In addition, we constantly "reward" ourselves with empty-calorie sweets, alcohol, and high-fat, high-salt snacks.

FACT: The cost of illnesses associated with poor nutrition is estimated at $30 billion per year.

FACT: Poor dietary habits have been associated with heart disease, cancer, diabetes, bone diseases, respiratory disease, and poor growth and development in children.

FACT: Stomach cancer has been associated with diets that are high in smoked, pickled and spiced foods. The incidence of stomach cancer in Hispanics is twice that of white non-Hispanics, probably as a result of a diet high in these types of foods.

Changes in diet lead to changes in health. High levels of fat intake are related to high levels of blood cholesterol, heart attacks, and strokes. A lack of fiber can lead to conditions such as diverticulosis ("irritable bowel"), and may be linked to cancer of the colon. Sugar intake contributes to dental cavities and leads to overweight, with an increased risk of diabetes. Finally, a high level of sodium clearly invites high blood pressure.

The ensuing sections will provide healthy nutritional guidelines from the broad to the specific, and will address specific concerns for adults, women, and various ages of children.

Steps to Improve Health

The following are general guidelines to improving your health and that of your children:

1. **Eat a variety of foods including fruits, vegetables, whole-grain/enriched breads, cereals/grains, milk, cheese and yogurt, meats, poultry, fish, eggs, and legumes.**

2. **Maintain your weight.**
   a. Increase physical activity.
   b. Eat less fat.
   c. Eat less sugar and sweets, including soda.
   d. Avoid excessive alcohol intake.

3. **Avoid fat, saturated fat, and cholesterol.**
   a. Eat lean meat, poultry, fish, and legumes.
   b. Trim excess fat from meats.
   c. Stick to moderate use of eggs, red meats, and organ meats (liver).
   d. Limit intake of butter, cream, hydrogenated margarine, shortening, lard, and tropical oils (coconut, palm).
   e. Broil, bake, or boil foods as opposed to frying.

4. **Eat foods with adequate starch and fiber.**
   a. Substitute starches for fats and sugars.
   b. Select whole grain foods, fresh vegetables and fruits, beans, and peas.

5. **Avoid too much sugar.**
   a. Sugars include honey, brown sugar, and syrups (corn, maple).
   b. Eat less candy, ice cream, cake, cookies, desserts, and soft drinks.
   c. Use only fresh fruit or fruit canned in natural juices.
   d. Watch labels for hidden sugar: sucrose, maltose, dextrose, lactose, fructose, and syrup.
   e. Watch labels for the first or second ingredient listed; if a form of sugar is listed, it indicates a large amount.

6. **Avoid too much sodium.** (See Handout J for additional information)
   a. Learn to enjoy unsalted foods.
   b. Cook with small amounts of salt, or none at all.
   c. Don't add salt at the table.
   d. Limit intake of chips and such snacks, cheese, pickles, cured meats (ham, bacon), and condiments such as soy sauce, steak sauce, ketchup, and garlic salt.
   e. Read labels on processed foods.

7. **Drink alcohol in moderation only, if at all.** One to six drinks per week appear to cause little harm in most adults. Pregnant women and those who can't control alcohol intake should not drink at all. If trying to maintain weight, one should limit consumption. Not only does alcohol contain empty calories, but its effects can interfere with judgment and choosing the right foods, leading to overeating.

BASIC EATING PLAN FOR ALL AGES

No matter what stage of life we are in, there are nutritional requirements each of us must meet. Following is a basic eating plan for everyone, to be modified according to age.

MILK

Recommended amount: 16 ounces per day (32 ounces for pregnant women).

Adult portions: one cup milk, one cup yogurt, one to one and one-half ounces cheese.

Children's portions: one-half to three-fourths cup milk, one-half to three-fourths cup yogurt, three-fourths to one ounce cheese.

Healthy tips: since children take in smaller portions, they need more frequent servings to meet their total needs; though milk is important, don't overemphasize it and displace other important nutrient-rich foods.

BREADS AND WHOLE GRAINS

Recommended number of servings: six.

Adult portions: one slice bread, one cup ready-to-eat cereal, one-half cup pasta.

Children's portions: one-half to three-fourths slice of bread, one-half cup ready-to-eat cereal, and one-fourth to one-third cup pasta.

Healthy tips: oatmeal, whole wheat bread, whole wheat muffins, brown rice, graham crackers, and buckwheat pancakes.

FRUIT

Recommended number of servings: at least two.

Adult portions: one apple, one-half banana, one-half cup juice, one-half cup sliced peaches. (In canned fruits, use those packed in juices or "light" syrup. Heavy syrup is high in sugar).

Children's portions: one-half apple; one-half banana, one-fourth cup sliced peaches, one-half cup juice.

Healthy tip: use fruit juices rather than fruit-flavored drinks, which contain added sugar and higher calories.

VEGETABLES

Recommended number of servings: at least three.

Adult portions: one-half cup.

Children's portions: one-fourth to one-third cup.

Healthy tips: include all types (dark green, deep yellow, starchy); many children dislike vegetables, but encourage them to eat some; don't allow them to fill up on favorite foods (breads, fruit) to the exclusion of vegetables (see p.10).

PROTEINS

Recommended number of servings: two to three (total three to four ounces lean).

Adult portion: two to three ounces lean meat.

Children's portion: one to two ounces lean meat.

Healthy tips: eat meat, fish, poultry, and eggs; avoid processed lunch meats, i.e, bologna and hot dogs (high fat; low iron, minerals, vitamins, and protein); read labels.

FATS AND SUGARS

The recommended daily limit for fat intake is no more than 30 percent of the total number of calories.[1] Calorie intake and need varies widely according to age, sex, body size, level of activity, and metabolic factors. Most women should strive to keep fat intake below 50 to 67 grams, and men below 67 to 83. By reading labels, it becomes easy to determine the amount of fat contained in certain foods.

To figure personal fat intake, follow the formula below:

1. Multiply calorie intake by 30 percent.

   [1500 calories x .30 = 450]

2. Divide by 9 (one gram fat = 9 calories).

   [450 calories divided by 9 = 50 grams]

3. Thus, 50 grams of fat is the "limit" recommended for a 1,500 calorie eating program.

Refined sugars are recommended to be kept at a minimum so as not to dull the appetite and take the place of more nutrient-rich foods. An occasional "treat" is fine, but again, watch the fat intake!

VITAMINS

If healthy individuals are eating well, or if 100% of the Daily Value is met, vitamin supplements may not be necessary. (According to the FDA, the Daily Value is made up of Daily Reference Values (DRVs) and Reference Daily Intakes (RDIs). RDI replaces the former U.S. RDAs.) Health professionals' opinions vary on the need for regular supplements, however, so it's best to consult your health professional for your particular needs.

4

[1] Some sources now recommend *less* than 30 percent fat in your eating plan.

NUTRITIONAL DIFFERENCES FOR ADULTS, PREGNANT WOMEN, AND CHILDREN

As we change through the years, our bodies need most of the same foods throughout our lives. However, at certain times we may require different nutrients to foster growth, sustain strong bones and teeth, nourish a developing fetus, and prevent conditions such as anemia and osteoporosis. The following is a list of recommended servings from each basic food group, citing serving amounts for both adults and children and healthy tips for meeting nutrient requirements.

The Adult Years

Physical growth has stopped, but adults still need the same nutrients as when they were children to maintain their bodies and stay healthy. Metabolism slows down, so the need for calories may be less, and adults should watch their intake of fat, sugar, and sodium. Healthy eating must remain a part of adults' life-styles.

How Life-style Changes Influence Eating. Keep in mind that during all stages of life, adults may be "too busy" to eat properly. Though the demands in all walks of life are easily understandable, nutrition should be moved up from the "back burner" as soon as possible.

Tackling Financial Challenges. Everyone has difficulty making ends meet at times, and we all want to control costs and get the most for our money. Following are some tips for saving money in the supermarket and planning low-cost meals.[2]

- *Know what you want to buy.* Plan menus one to two weeks ahead, and then make out a shopping list. This will help you remember to buy everything you need, as well as resist unnecessary "impulse buys." To save time, organize your shopping list to follow the path you take through the store.
- *Compare products.* Use unit price stickers to figure the price per pound (or ounce or quart) and determine which product gives you the most for the least amount per unit (see below).

Package Size	Sticker Price	Unit Price (per pound)
1/2 pound	$0.29	$0.58
1 pound	$0.49	$0.49
2 pounds	$0.78	$0.39
3 pounds	$1.33	$0.44

By unit pricing, it is easy to tell that the two pound package gives the best price per pound. Unit pricing lets the consumer look beyond the sticker price, breaking it down for easy comparison. You may buy a larger size package to get the best unit buy, so the real savings come over several weeks or months. You can also compare products by scanning newspaper ads to check for specials, reading ingredient and nutrition labels, and by choosing the most suitable brand (national, store, or generic) for the intended purpose. Store brands are often manufactured by the same company that makes a national brand, but are sold at a lower price because they aren't heavily advertised.

- *Stock up on specials.* If the price is unusually low and the food product can be stored easily, buy in quantity. However, be sure to check expiration dates first!
- *Use coupons for foods you regularly purchase.* Coupons can save money if they lower the price below that of the brand you usually buy, or if you would buy that particular brand anyway.
- *Take advantage of the competition.* If you have access to two or more supermarkets, a farmer's market, or a wholesale store, you may be able to increase your savings by determining which products are the best buy in each.
- *Evaluate family food choices.* Do you rely on convenience foods, often eat meals away from home, or frequently choose gourmet or specialty foods? These habits can increase the amount spent on food. Foods prepared from scratch are much cheaper than convenience foods (exceptions include orange juice and pancake and cake mixes).

[2] Adapted from *Tackling Financial Change* handouts, courtesy of Cornell Cooperative Extension Associations of the Capitol District Area.

- *Watch the meat portions.* Meat, fish, and poultry are often the most expensive item on the dinner plate, and many people eat larger portions of these foods than they need. The plate should be filled with more vegetables and starchy foods (rice, noodles, pasta) than meat. For some ideas on inexpensive food combinations that provide high-quality protein, see Handout I.
- *Plan your meals.* By planning meals (at least the main meal), one can take advantage of grocery specials on meat and better utilize the food on hand. Planning also reduces the stress of deciding what to prepare each day. Hint: plan a meal to use up leftovers!
- *Buy in bulk.* If there is a wholesale store nearby, or the local supermarket carries bulk foods, one can often save by buying large quantities.
- *Specific suggestions for low-cost foods.*

  Meat, poultry, and fish. Along with checking the price per pound, consider the amount of waste from bone and gristle. Also remember that although products such as hot dogs and cold cuts seem inexpensive, they are not a wise nutritional choice.

  Grain products. Sugary breakfast cereals, or those with added raisins or nuts are higher priced. Stick with plain cereals and add your own extras. "Hot" breakfast cereals such as oatmeal are usually cheaper than "cold" varieties. Buy plain rice and noodles and add your own sauce (or a can of creamed soup) rather than prepared brands. Look for a day-old or thrift bread store.

  Dairy products. Powdered milk can be used for baking and, along with evaporated milk, may be purchased with coupons and stored for future use. Surprisingly, convenience stores often have the best price on fluid milk. Since it is often cheaper to buy milk in large amounts, remember it can be frozen so it doesn't spoil.

  Fruits and vegetables. Buy fresh produce when it is in season. If a farmer's market is available, you may save more by buying in quantity and freezing or canning the extras.

Tips for the Busy Individual, Working Parent, or Single Cook

- Plan menus in advance.
- Borrow quick-and-easy cookbooks from your local library or County Cooperative Extension office.
- Prepare large batches of food when there is time. Freeze individual portions or leftovers for future meals.
- Read labels on convenience foods to see how they fit into your eating pattern.
- Use a microwave oven, if available, to save time defrosting and cooking.
- Have your major meal at lunchtime and prepare a lighter meal for dinner.
- If you must eat meals away from home, eat nutritiously (but be aware that eating out inflates your food budget).
- Share occasional meals with a friend, each contributing something.
- Have quick-to-fix breakfast foods on hand. If you're not hungry in the morning, take a nutritious snack for later!

Special Considerations for Women

Birth control pills or an intrauterine device (IUD) may increase a woman's needs for certain nutrients. If she eats well, she may not need a vitamin supplement, but if she maintains poor nutrition or is prone to skipping meals, she may wish to take a supplement with no more than 100 percent of the Daily Value. She should discuss this with her health professional.

Twenty percent of women in childbearing years develop **anemia** due to iron deficiency or low levels of folic acid. Forty percent of anemia in women 20 to 50 years-old is due to menstrual blood loss or pregnancy. Symptoms include lack of energy, quick fatigue, pale complexion, and increased susceptibility to infection. Erratic eating patterns increase the risk of anemia, and low calorie intake compounds the problem.

Many women are also deficient in milk intake. Habitually low calcium levels as well as heredity and lack of exercise may contribute to **osteoporosis**, a condition of fragile bones that occurs in a large number of women over 60. It is important to choose two servings of milk or its equivalent every day. If weight is a consideration, try lowfat or skim milk.

Pregnant Women

A woman's body changes drastically and may develop many discomforts as it accommodates a growing baby. The most common complaints result from changes in hormonal balance and the crowding of internal organs by the expanding uterus. Some simple changes in diet and exercise, however, can provide relief and increase comfort.

Posture is important to decrease the occurrence of backaches, and moderate daily exercise of short duration with frequent rest periods may allay nausea and provide more energy. Walking and swimming are the best bet, but other forms are acceptable as long as there is no discomfort, only mild fatigue, and a pulse no greater than 140 beats per minute.

The health of both mother and baby depend a great deal on nutrition during pregnancy. Weight gain is important to meet a pregnant woman's needs as well as those of her developing fetus. It also affects the baby's birth weight, considered higher = healthier by health professionals. One should not embark on a weight-control diet at this time. The recommended gain is 24-30 pounds, at a rate of 2 - 4 pounds the first trimester, and one pound every nine days thereafter.

Nutrient Needs. What a pregnant woman eats is critical to the growth of tissues, the baby's development, and breastfeeding. It is important to eat a variety of foods which are "nutrient dense," containing an adequate amount of calories and sufficient nutrients, especially **proteins, iron, folic acid, and calcium.**

Alcohol, Drugs, and Cigarettes. Alcohol passes into the baby's bloodstream and can damage fast-growing cells: slowing growth or killing them altogether. The brain is especially sensitive. Drinking too much alcohol can cause birth defects, while regularly drinking even two drinks per day may hurt the unborn baby. There is no "safe" amount of drinking alcohol during pregnancy. All drugs should be strictly avoided, including street drugs such as marijuana and cocaine, and even nonprescription drugs such as aspirin. All may help cause birth defects. Smoking contributes to low birth weight in babies, as well as cancer and lung disease in adults.

Caffeine. This may also be absorbed in the baby's bloodstream. Remember that caffeine is a drug and can stimulate the central nervous system. If caffeine affected a mother before she was pregnant, she should now avoid it. Some suggestions: drink decaffeinated coffee and tea, avoid cocoa products and chocolate, and drink decaffeinated colas or caffeine-free beverages (such as ginger ale or root beer).

Though some people who practice unsafe behaviors are lucky to deliver babies without visible problems, all actions carry risks. Changing dangerous behaviors at any time is helpful to both mother and baby since damage is dose-related.

Adults Over 60

As mentioned before, as adults grow older, they need fewer calories. Both their metabolism and their activity level slow down. Many senior citizens tend to become overweight if they don't change their eating patterns. Overweight can increase risk of high blood pressure, diabetes, heart disease, difficult breathing, and stress on the heart, on arthritic bones, and on joints.

Older adults must eat nutrient-rich meals, trying to have the minimum number of servings of recommended foods. They especially need vitamin D and calcium to prevent osteoporosis, and protein to maintain and repair body tissues, fight infection, and prevent disease. Animal sources of protein and calcium include milk, cheese, meat, and eggs. Vegetable proteins are legumes, nuts, grains, and seeds.

Sodium. High blood pressure is common in older people. If it is not treated, it may lead to heart disease, stroke, and kidney problems. Much evidence points to a strong link between sodium intake and high blood pressure. Follow your health professional's advice concerning sodium intake and blood pressure.

Medications and Food. Health professionals and/or pharmacists should tell clients about the side effects of medication, and whether it should be taken before, during, or after meals. They should also give out information on foods which may cause problems if taken with a prescription. If you drink alcohol, be sure to ask if it is safe, as well as with anything else about which you are concerned.

Babies

During the first year, babies grow faster than at any other time in their lives, actually tripling in weight. Not all babies grow or develop at the same rate, but parents can help their babies progress by providing foods with the right nutrients.

Breastfeeding. Deciding whether or not to breastfeed is important. Most health professionals recommend it, but only the mother can decide what will work for her. She must think of her baby's needs over her own, and will need the support of her partner, family, and friends.

Advantages

- Breastmilk is the perfect food: it has the right balance of nutrients, is easy to digest, and provides antibodies to protect against disease. It is different from cow's milk because babies grow and develop much differently than calves.
- Breastfeeding is safe and clean. The milk is at the right temperature and always available.
- Breastfeeding quickens the uterus' return to its prepregnancy size, and helps get rid of extra pounds after pregnancy by using more calories.
- Breastfeeding takes less time than bottle-feeding; it's less work and more convenient.
- Breastfeeding helps build a loving link between mother and baby.

Disadvantages

- Many new mothers worry that they don't have enough milk, but if the baby is gaining weight, there is no need to worry. (You may use a formula supplement, but it isn't necessary since mothers produce milk according to babies' needs.)
- You must breastfeed more often: about 8-12 times in 24 hours.
- Working moms may find it harder to work and breastfeed, though it can be done with careful planning.
- The new mother may feel tied down, though she may pump milk or leave formula to be given if she needs to be away.
- If done exclusively, breastfeeding doesn't allow the father to participate in feedings.

Nutrition is as important for lactating mothers as for pregnant women. If breastfeeding, you must eat 200 more calories than while you were pregnant. You especially need Vitamins A and C, niacin, riboflavin, calcium, and zinc. Drink two to three quarts of fluid per day, and don't take any medications without consulting your health professional.

Bottle-Feeding. Formula is cow's milk altered to be like breast milk in nutrient content (soy milk formulas are available for babies allergic to cow's milk). It comes in ready-to-use, concentrated, and powdered form. It is very important to read the labels carefully and follow directions exactly. If formula isn't mixed correctly, it may hurt the baby, or may not provide enough nutrients. A health professional can recommend what kind of formula and how much to give. Only formula or breast milk should be given to babies under six months of age, and honey must never be given to a child under one year of age, as it may cause botulism.

Preparation and Storage. Bacteria like to grow in milk, so everything, including hands and counter surfaces, must be thoroughly clean. Prepare only enough formula for one day and refrigerate it — if it's not used within 24 hours, throw it away. Also throw away formula left in the bottle after feeding.

Young Children

Young children often change their eating patterns; their likes and dislikes vary from day to day. They sometimes even have special demands on how food must be arranged on their plates. Though caregivers may not be able to completely get rid of these problems, they can relieve them by learning why children eat this way. Caregivers should also set a good example of healthy eating patterns.

You have to teach good eating habits just like you would teach any other good behavior, and using positive and negative reinforcement can help. To set realistic expectations, be aware of your children's abilities shown by their physical development.

Growth the First Five Years. After the first year, children's growth slows remarkably. Toddlers (ages one to two) gain only five to ten pounds per year, while preschoolers (ages three to five) are even slower, gaining only three to five pounds per year. Because of slower growth, toddlers and preschoolers need less food and their appetites decrease, a trait often mistaken for poor appetite.

Between the ages of one and two, children learn to feed themselves, gradually going from using their hands to utensils. Messiness and spilling is normal until age two, when hand-to-mouth coordination gets better. Time and practice help, so children should be allowed to try their new skills often. When tired or rushed, they may go back to eating with their fingers, or may want to be spoon-fed.

Toddlers are curious and independent, and like to explore since they can move and manipulate things. Preschoolers are always moving, perfecting skills and learning new ones. They get taller rather than gaining a lot of weight, resulting in a lean preschooler. This should be expected and not blamed on undernourishment. Heredity, health, and getting enough nutrients determine overall growth.

Meeting Nutritional Needs. Kids have their own eating patterns, which change often. Though they probably won't have a balanced diet every day, they may sustain one over several days by eating a wide variety of foods from all basic food groups. Their needs are the same as adults, though portions are smaller. The standard rule-of-thumb for a child's portion is one-half to three-fourths the serving size of an adult.

If normal, healthy children are eating well, they shouldn't need vitamin supplements. The possible exception is iron for one- to three-year-olds, since the recommended amount is higher than that for older children. Caregivers may want to ask their health professionals about an iron supplement or iron-fortified cereals.

If young children have poor eating habits or only eat certain foods, vitamin pills may be necessary to improve overall health. However, pills are not a substitute for a good diet, and parents shouldn't believe so. Also, overdoses of vitamins can hurt growing children.

Children have smaller stomachs, limiting space for "junk" foods if we want them to get all the nutrients they need. Encourage them to develop good eating habits at a young age, limiting intake of fats and sugars. When they are older, these habits will help them to make wise food choices and prevent onset of common chronic diseases, promoting lifelong health.

Feeding Schedules. Caregivers should encourage children to eat when they are hungry and not as a result of television influence or sheer boredom. Have meals at regularly scheduled times if possible, and don't delay feeding children until they become tired or lose their appetites. Meals should be supplemented with healthy snacks to keep energy up.

Teaching Food and Good Health. There are many ways to enlighten children in the realm of nutrition. Children may go grocery shopping, naming foods and where they come from in various departments. Together, a caregiver and child may read stories about food. Children who are allowed to help in food preparation feel useful and important.

School-Age Children

The midchildhood years (age six to the onset of puberty) are fairly stable in growth rate and behavior, compared to the preschool and adolescent periods. Height and weight vary among children due to genetic and environmental influences, but each child's growth is usually slow and steady. In spite of a relatively slow growth rate, however, nutrition still plays an important role in the following areas:

- Supplying energy needed for vigorous activities
- Helping to resist infection
- Providing building materials for growth
- Maintaining enough nutrients for the adolescent "growth spurt."

Promoting Good Food Habits. We need to remind children of the good eating patterns developed in early childhood when they go to school. A working caregiver is challenged to plan and prepare meals to meet the nutritional and social needs of his/her family. If available, modern devices such as a microwave oven or food processor can make the job easier, as can cooking in quantity over the weekend and freezing leftovers.

Meeting Nutritional Needs. School-age children need more food than preschoolers, but the changes are not enormous. Healthy, active children will have larger appetites and progressively larger intakes of food. The more active the child, the more food is required. If caregivers establish habits of exercise and weight maintenance in childhood, the better the chance of reduced risk of disease later in life.

Younger children should eat a wide variety of foods from all groups. Again, they need all the same nutrients as adults, though portion sizes may be significantly smaller. They should have 16 ounces of milk per day, especially children ages 10 to 11, who must have good calcium stores for the adolescent growth spurt. To help control fat intake, caregivers may serve low-fat or skim milk. The suggested number of servings from each food group remains the same as for young children, though portion sizes may increase with activity levels and age.

Teaching Nutrition Survival Skills. The school-age years are perfect for soon-to-be young adults to learn about their food needs while using their academic skills too. Children may practice reading and math skills while grocery shopping. Caregivers may teach them how to unit-price similar products to determine the best buy. The children will develop a sense of pride and accomplishment, and will acquire skills to last a lifetime.

Teenagers

Most caregivers find their children's teenage years taxing, and nutritional habits can add to their worry: from the huge appetites of teenage sons to the figure obsession of teenage daughters. There are also the hazards of skipping meals, crash diets, and fast foods.

Though bothersome, these are common teenage practices, and most youngsters pass through the period with no problem. Caregivers basically control what teenagers eat when they are young, but they soon become independent eaters. If caregivers teach them good nutritional habits as children, they will use these skills through adolescence and adulthood.

Changes During the Growth Spurt. At this time, adolescents experience a huge increase in certain hormones, which trigger four major physical changes:

- Increased growth rate
- Increased height and weight
- Change in body composition
- Achievement of sexual maturity

This is a time of rapid growth, though it is different both between and within the sexes. Girls begin the spurt about two to two-and-one-half years earlier than boys. Though boys are later (beginning about age 12 to 13), their growth is greater and the spurt lasts longer, peaking around age 14 and ending around age 19.

Girls are more likely to gain body fat during this time, and by age 20 have approximately twice as much fat as men, mostly in the hips and breasts. Boys increase muscle tissue, especially in their upper bodies, and decrease overall body fat.

Growth's Impact on Nutrient Needs. Though the needs for all nutrients increase during the growth spurt, they vary according to individual growth patterns. Since girls begin growing earlier, they need to increase their intake at an earlier age. Boys will need more food once the growth spurt begins since their growth rate is more rapid and yields more muscle. This need for a complete, balanced diet continues through adulthood.

Meeting Nutrient Needs. Teens need the same nutrients as adults, and require at least the minimum number of recommended servings from each food group. The exception, again, is milk, which is increased to three servings (or the equivalent of 24 ounces) to meet increased calcium needs. Calorie needs vary widely due to activity levels and different growth patterns. Some teenage boys need even more than the maximum recommended, and may choose additional servings from all food groups. Some teens may even choose high-calorie foods higher in fat and sugar more often than others and still maintain their weight. It's important, though, not to eat too many of these foods. If regular physical activity decreases, teens should decrease intake of "junk" foods and exercise more. Some important nutrients to include in teens' diets are: iron, calcium, magnesium, vitamins A and B6, zinc, and folic acid.

Acne. This skin condition has been blamed on many foods, including chocolate, fatty or fried foods, sweets, and soft drinks. However, no medical evidence points to one food as the cause of acne. A balanced diet combined with good skin care will lessen the severity of acne, but if a teenager feels that certain foods make the condition worse, it may be best to avoid them.

FAD DIETS

While Americans' nutritional habits are sad and damaging, perhaps none is more harmful than the value placed on thinness. Every year, hundreds of diet books, reducing plans, and appetite suppressants flood the market. Regardless of the method, over 90 percent of the people who lose weight regain it. Recent studies from the Framingham (Mass.) Heart Study show that from a life-expectancy standpoint, it may be worse to have lost pounds and regained them than never to have dieted at all. According to the *New England Journal of Medicine*, "Persons whose body weight fluctuates often or greatly have a higher risk of coronary heart disease and death than do persons with relatively stable body weights" (June 27, 1991).

The majority of diet strategies don't work, and some are dangerous. Consumers must protect themselves from potentially harmful diets. If you wish to maintain your weight or are considering a weight-loss program, ask yourself the following questions while evaluating it:

1. Why do I want to lose weight? Example: "To impress my friends/family," or "To increase the amount of activity I can endure."
2. Does it require buying special foods, devices, books, medications, or vitamin supplements?
3. Does it promise rapid weight loss (more than two pounds per week)?
4. Does it make sensational claims, e.g., "eat all you want," "no will-power needed," "spot reduction?"
5. Does it promote the use of diuretics (to eliminate water) or appetite suppressants?
6. Is the effectiveness of the program based on limited groups of foods or entirely eliminating a basic food group?
7. Does the program lack supervision by qualified, competent health professionals?
8. Does the program lack a focus on skills to maintain weight loss and prevent relapse?

If you answered "yes" to one or more of the above questions, chances are the program is not healthy. Be especially aware if the program falls into one of the following categories:

LOW CARBOHYDRATE

High in protein and fat; supposedly causes body to "burn fat" for energy.

Risks

- The potential high fat content may be harmful to individuals concerned with cholesterol and heart disease.
- Individuals with kidney or liver disease may worsen their problems with excessive protein intake. This can overload the body's waste-disposing mechanism and can cause ketosis.

HIGH CARBOHYDRATE

Emphasis on whole-grain products, starch, fruits, vegetables; low in protein and fat.

Risks

- Though we are now encouraged to increase intake of complex carbohydrates, these diets can carry the premise too far and leave the individual vulnerable to nutrient deficiencies, i.e., calcium, fatty acids, iron, protein, zinc, vitamins B12, D, E, and K.

PARTIAL TO TOTAL FASTING

Limit food intake to water only or other liquids and supplements, i.e., juice, tea, coffee, vitamins.

Risks

- The body uses up its principle sources of energy first: 1) glucose, and 2) protein stored in muscles (with fat stores).
- When 19 percent of the body's protein and 70-94 percent of the body fat stores are lost, death may result.
- Weight loss may be slow when fewer calories are ingested, since the body lowers its metabolism to conserve energy.

PROTEIN SPARING MODIFIED FASTS/LIQUID PROTEIN

Supply the body with 200-400 calories of protein per day to prevent it from breaking down muscle tissue to meet its needs. Though the claims seem to counteract the dangers of fasting, the method is not successful.

Risks

- The Food and Drug Administration (FDA) has received reports of 60 deaths associated with these diets.
- The diet does not promote sound eating habits or long-term weight loss.

Exercise

Whether maintaining weight or pursuing a weight-loss program, it is essential to realize that a balanced eating program and exercise go hand-in-hand. A low level of physical activity has been shown to be related to increased risk for heart disease, stroke, high blood pressure, diabetes, overweight, and obesity. The most successful exercise programs are based on a regularly-scheduled time set aside by the individual for exercise which he/she enjoys. The more realistic and convenient the plan, the more likely the individual is to maintain his/her routine. (Please note that more detailed information on exercise can be found in the module entitled "Exercise: Benefits for Body and Mind.")

In addition to having a role in weight maintenance and disease prevention, vigorous exercise can help us in the following ways:

- Coping with stress
- Reducing depression
- Enhancing self-esteem
- Improving appearance
- Increasing energy levels
- Controlling appetite
- Helping prevent bone loss with aging

The following is a list of **Life-style Activities**[3] which can give you a little exercise without a lot of effort:

- Walk up and down stairs.
- Plan trips to include physical activity.
- Park farther away.
- Scrub the floors and windows.
- Get off the bus early.
- Take a walk during lunch time.
- Mow and weed the lawn.
- Do calisthenics while watching TV.
- Make yeast breads from scratch.
- Do leg lifts while brushing teeth.
- Walk the dog or cat.
- Stand rather than sit while waiting.
- Wash the car.
- March in place while waiting for laundry.
- Start a garden.
- Walk more, sit less.
- Carry home a small grocery bag or load the car yourself.
- Walk to talk to your coworker or neighbor.
- Do errands with the kids rather than sending them for you.
- Practice tensing abdominal muscles while driving or riding.

Please consult your health professional before beginning any strenuous exercise program.

[3] Adapted from *Why Weight?*, Nutrition Services, Allegheny County Health Dept., Pittsburgh, PA, 1988.

SAMPLE LESSONS

Sample Lesson 1: Label Reading

Goal: To gain a basic understanding of label design, ingredients to look for, and how they affect the overall nutritional value of a product.

Outcome Objective: The learner will evaluate the value of sample foods and foods he/she eats on a regular basis.

Instructional Materials and Resources:

- Vocabulary list containing various names for sugars and fats (types of oils including tropical).
- Information regarding reasonable sodium levels.
- *Fat Trivia, How Much Fat Do You Need?*, and *Cut the Fat . . . Reduce the Calories* (**Handouts A-C** included in this guide).
- *Food Labeling* (**Handout D1- D7** included in this guide).
- Photocopies of "good" vs. "bad" labels provided by instructor.
- Labels of frequently-used products from each student's home.

Activities

Activity 1 Introduce this lesson by discussing its purpose: to help students understand label design, what ingredients to look for, and what amounts of of sodium and calorie-rich ingredients are reasonable without spoiling the nutritional value of a food.

Pass out vocabulary list, sodium information, *Fat Trivia*, and *How Much Fat Do You Need?*. Review with students and explain label design: ingredients are listed in descending order based on amount.

Activity 2 Pass out labeling handouts (Handouts D1-D7) and photocopies of "good" vs. "bad" labels (example: canned fruit packed in unsweetened juice vs. high-fat, high-sugar cookies). You may wish to use the label of something commonly thought to be nutritious, such as some granola products, which can be high in fat and sugar.

Use vocabulary lists to find "hidden" sugars, tropical oils, and those low in saturated fat (canola, safflower). Pay attention to their position in the list of ingredients — first or second means high content.

Read the nutritional information panel to find the number of milligrams of sodium and grams of fat. Compute the fat content formula to find the percentage of calories derived from fat.

Activity 3 Ask the students to bring in labels of products commonly used in their homes, or to use the information just learned to choose a new product at the grocery store. Follow the same steps listed above to evaluate nutritional content of the products.

Activity 4 Ask students to write down their ordinary menu for one meal of the day. Pass out *Cut the Fat . . . Reduce the Calories* as a model and ask students to redesign their menu to reduce fat.

Sample Lesson 2: Recipe Analysis

Goal: To analyze homemade food products in terms set forth by label design.

Outcome Objective: The learner will be able to analyze a recipe to create his/her own food label.

Instructional Materials and Resources:

- *Food Labeling* (**Handout D1- D7** included in this guide)
- Student recipes

Activities

Activity 1 Ask students to each bring in a recipe he/she enjoys, preferably a simple one. Using **Handout D1- D7**, have students analyze recipes to create their own food labels (i.e., put ingredients in descending order, product name, weight/volume, etc.)

Activity 2 Ask students to create an advertising or marketing scheme for their "products." They may use music, art, print, or other media to "sell" their products to the class.

Activity 3 Have the class create a menu from the favorite foods advertised, cook together, and enjoy!

Sample Lesson 3: Sources of Nutrients

Goal: To identify sources of required nutrients in a balanced nutritional program.

Outcome Objective: The learner will plan a balanced, varied menu incorporating all important nutrients.

Instructional Materials & Resources:

- *Nutrient Sources* (**Handout E**)
- *Recommended Eating Plan* (**Handout F**)
- *Instead Of s . . .* (**Handout G**)
- *Recipe Modification* (**Handout H**) or copies of simple recipes which can be easily modified.
- *Inexpensive Combinations that Provide High-Quality Protein* (**Handout I**)
- *Sense about Sodium* (**Handout J**)
- Raw vegetables, eggs, cheese, etc. to use as hands-on props

Activities

Activity 1 Divide students into groups; pass out food props and photocopies of *Handouts E* and *J*. Ask each group to list what vitamins and minerals are contained in the food they possess, and what those nutrients do for the body. Reassemble class and have each group report.

Activity 2 Pass out *Handout F*. Ask each student to plan a day's menu according to the recommended daily servings and incorporating a variety of foods containing important nutrients. Provide *Handout I* to the students for additional ideas.

Activity 3 Pass out *Handouts G* and *H* (or other simple recipes). Discuss the fact that recipes are not written in stone and may be changed to be more nutritious. Ask students to modify recipes using ideas from handouts.

Sample Lesson 4: How Marketing Affects Food Choices

Goal: To understand the many ways in which marketing affects our food choices with its portrayal of females, children, and famous figures.

For ESL students: the above in addition to receiving a type of "cultural indoctrination" to discover Americans' value system through advertising gimmicks.

Outcome Objective: The learner will identify several marketing slants and their intended impact on food choices.

Instructional Materials & Resources:

- Sample advertisements.
- Old magazines and catalogs which may be cut up; scissors.

Activities

Activity 1 Show class sample ads and discuss the intended impact on the reader. Brainstorm as a class to name other common television or printed advertisements with similar intentions.

Activity 2 Pass out old magazines or catalogs and scissors. Ask students to cut out advertisements and write down the intended audience and what marketing ploys have been used on the consumer. Then select students to refute the ads.

Sample Lesson 5: Community Resources

Goal: To introduce learners to various organizations within the community which may be of assistance to them with nutritional information, economic tips and advice, individualized help with breastfeeding, financial aid, and so forth.

Outcome Objective: The learner will contact representatives from various resource organizations, have the opportunity to ask questions, and make informed decisions on who to contact for further information or assistance.

Instructional Materials & Resources:

- Guest speakers from organizations such as the American Red Cross, Cornell Cooperative Extension (county division), La Leche League, WIC, and so forth.

Activities

Activity 1 Invite speakers to describe the functions and programs of their organizations, benefits available to clients, and how to access resources or more information.

Activity 2 Open the floor for discussion and questions.

HANDOUT A

FAT TRIVIA

Calories Per Teaspoon

Fat (butter)	36	Protein (pure)	18
Carbohydrate (sugar)	16	Alcohol (absolute)	35

What happens to calories when fat is added?

(Calories per half cup)

Plain Potato	50	French Fries	151
Potato w/margarine	85	Hash Browns	177
Potato Salad	145		

Visible Fat

Bacon	Shortening
Lard	Margarine
Oil	Poultry Skin
Butter	Visible Marbled Meat Fat

Hidden Fat

Baked Goods	Gravy
Avocado	Dairy/Nondairy Products
Sauces	Salad Dressings
Candies	Prepared Foods
Nuts	Cold Cuts

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

HANDOUT B

How Much Fat Do You Need?

No more than 30 percent of your total calories (or less) should come from fat.

Joe consumes 1,800 calories each day. To find out Joe's limit on fat intake:

- Multiply 1800 calories by 30 percent (.30).
  1800 x .30 = 540 calories.
- Divide 540 calories by 9, since there are 9 calories in one gram of fat.
  540 ÷ 9 = 60 grams of fat.

Therefore, Joe should have a maximum of 60 grams of fat per day.

There are four grams in one teaspoon of fat. To find how many teaspoons of fat 60 grams is:

- Divide 60 grams by 4.
  60 ÷ 4 = 15 teaspoons.

Therefore, Joe should have a maximum of 15 teaspoons of fat per day.

Compute YOUR Fat Needs

1. My average caloric intake each day = _____ calories.
2. (# calories per day) x .30 = _____ calories from fat per day maximum.
3. (# calories from fat per day) ÷ 9 = _____ grams of fat per day maximum.
4. (# grams of fat per day) ÷ 4 = _____ teaspoons of fat per day maximum.

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

HANDOUT C

CUT THE FAT . . .REDUCE THE CALORIES

Breakfast	Calories	Grams Fat
Orange Juice, 4 oz.	60	trace
1 Egg, Fried	110	8.7
Toast, 1 slice	70	1
Butter, 1 tsp.	35	4
Jam, 1 Tbsp.	55	trace
Coffee	—	—
Half'n Half, 1 Tbsp.	20	2
	350	15.7

4 pats* butter

Low-Fat Breakfast	Calories	Grams Fat
Orange Juice, 4 oz.	60	trace
1 Egg, Poached	80	6
Toast, 1 slice	70	1
Low-fat Cottage Cheese, 2 Tbsp.	42	0.5
Jam, 1 Tbsp.	55	trace
Coffee	—	—
Milk, skim, 1 Tbsp.	6	0.5
	313	8

2 pats butter

Lunch	Calories	Grams Fat
Chef Salad-		
Lettuce, 4 leaves	20	trace
Avocado, 1/4 small	70	7
Tomato, 1/2 medium	20	trace
Roast Beef, 2 oz.	160	9
Cheddar Cheese, 2 oz.	230	18
Dressing, 2 Tbsp.	130	12
Crackers, 6 rounds	110	5.8
Chocolate Chip Cookie, 2 small	100	4
Iced Tea w/lemon	—	—
	840	55.8

14 pats butter

Low-fat Lunch	Calories	Grams Fat
Chef Salad-		
Lettuce, 4 leaves	20	trace
Asparagus, 2 1/2 spears	8	trace
Tomato, 1/2 medium	20	trace
Chicken, 2 oz.	75	2
Cottage Cheese, 2 oz.	50	2.5
Low-cal Dressing, 2 Tbs.	50	4
Rye Wafers, 2 triple	50	trace
Vanilla Wafers, 3	50	1.5
Iced Tea w/lemon	—	—
	323	10

2.5 pats butter

Dinner	Calories	Grams Fat
Sirloin Steak, 4 oz.	440	36
Broccoli w/Cheese Sauce, 1/2 c.	60	3.6
French Fries, 3 1/2 oz.	220	8.4
Cake w/icing, 1 1/2" x 1 1/2"	235	12
Beer, 12 oz.	160	0
	1,115	60

15 pats butter

Low Fat Dinner	Calories	Grams Fat
Flank Steak, 4 oz.	230	8
Broccoli, stir-fry 1/2 c.	30	1
Baked potato	100	0.1
1 tsp. butter	36	4
Angel Food Cake, 2"	104	0.5
Strawberries 1/2 cup	30	0.5
Wine Spritzer, 12 oz.	90	0
	620	14.1

3.5 pats butter

GRAND TOTALS

Menu plan	Low-Fat Menu plan
2,305 Calories	1,256 Calories
131.5 Grams Fat	32.1 Grams Fat
33 Pats Butter	8 Pats Butter

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988 *1 pat = approx. 1 teaspoon

HANDOUT D_1

FOOD LABELING

Food labels provide valuable information for the consumer. Learn to use labels as guides for wise food choices.

BASIC INFORMATION THAT MUST BE INCLUDED

- *Name of the Product:* in a name with two parts, the first word will indicate the ingredient found in the largest amount. For example, ***Beef Broth and Noodles*** will be mainly beef broth, while *Noodles and Beef Broth* will contain more noodles than beef broth by weight. This is an indication of what you are actually purchasing and can help you decide if the price is reasonable.

- *Net Weight or Volume:* the word "net" means the weight of the actual product, not including the container or package. Net weight on canned food includes the liquid portion, such as syrup in canned fruit. Some packages appear to contain more than they really do.

- *Name & Address of Manufacturer, Packer, or Distributor:* this enables buyers to write for more information about the product or express their opinions about its quality or acceptability.

- *Imitation:* foods that resemble another food but do not contain the same nutrients must be labeled "imitation." For example, imitation cheese contains less butterfat than required by the standard of identity for cheese, and may contain other ingredients not included in this standard.

- *Natural or Organic.* There are no regulations governing the use of these terms on food labels. These terms are often used as marketing tools to increase sales.

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

HANDOUT D2

PRODUCT DATING

There are four types of open dates commonly used on food labels. Open dates refer to the calendar dates printed or stamped on the label. This is particularly useful for perishable items.

- *Pack Date:* the day the product was manufactured, processed, or packaged. Many canned and frozen foods carry a pack date.

- *Pull or Sell Date:* (Best when Purcased by —) the last recommended date of sale that still allows sufficient time for home storage and use. Cold cuts, ice cream, milk, and refrigerated fresh dough products are examples of foods with pull dates.

- *Freshness Date:* (Sell by —) the date after which the food is not expected to be at peak quality. It allows for some home storage time. After this date, the product may lose some flavor but is still safe to consume. For instance, some bakery products that have a freshness date are sold at a reduced price for a short time after this date. Cheese, peanut butter, and mayonnaise are other foods with this type of date.

- *Expiration Date:* (Do Not Use After —) the last day a food should be used for assured quality. Baby formula and yeast are examples of foods with expiration dates.

- *Code Dating:* Foods that have a long "shelf life" often have a code date on the label or container. This code gives the manufacturer information on where and when a product was packaged so if a recall would be necessary, the product could be easily identified.

Remember, although product dating provides information to the shopper, food quality is also very much affected by methods of handling and storage in the market, and at home.

HANDOUT D3

NUTRITION CLAIMS

The Federal Food and Drug Administration (FDA) has issued guidelines for nutritional labels. Manufacturers must meet certain standards in order to use the following terms:

Free ***("sugar-free," "fat-free," "calorie-free," "sodium-free," etc.)***

This term means that a product contains none or only a very small amount of the claimed ingredient. **Example:** "fat-free" and "sugar-free" both mean less than 0.5 mg per serving; "calorie-free" means less than 5 calories per serving. Other terms for "free" include "without," "no," and "zero."

Low ***("low in calories," "low in fat," etc.)***

This term may be used on foods which are naturally low in one or more of these components: fat, saturated fat, cholesterol, sodium, and calories. "Low" foods can be eaten often without exceeding dietary guidelines for the components. See the next page for rules concerning specific components.

Reduced ***("reduced calories," "reduced fat," etc.)***

This term means that a product has been nutritionally changed or altered to contain 25 percent less calories, or of a nutrient such as fat, than the regular version of the product.

Restriction: a "reduced" claim can't be made on a product if the *regular* food already meets the requirement for a "low" claim, such as "low in calories" or "low in fat."

Less ***("less fat," "less calories," etc.)***

This term means that a food, whether altered or not, contains 25 percent less of a nutrient than the reference food compared to it on the label. **Example:** pretzels have 25 percent less fat than potato chips, so potato chips may be referenced on the label and pretzels may carry a "less" claim. Another term for "less" may be "fewer."

Light or Lite ***("lite" sour cream, "light beer," etc.)***

This term means that a product has been nutritionally changed to contain one-third fewer calories *or* half the fat of the regular version of the food. "Light" or "lite" may be used to describe the color or texture of a food, such as "light brown sugar," but this must be explained on the label.

Restriction: if the *regular* version of the product derives 50 percent or more of its calories from fat, the reduction *must* be 50 percent of the fat.

High ***("high in iron")***

This term can be used if the food contains 20 percent or more of the Daily Value for a particular nutrient in one serving.

Good Source ***("good source of calcium")***

This term means that one serving of a food contains 10 to 19 percent of the Daily Value for a particular nutrient.

Healthy

The FDA has proposed a definition for the term "healthy." It may be used to describe a food that is low in fat and saturated fat, and contains no more than 480 milligrams sodium and 60 milligrams cholesterol per serving. The definition has not yet been officially accepted; a final ruling is expected in 1993.

Fresh

Although it is not mandated by new labeling laws, the FDA has also proposed a definition for the term "fresh." It may only be used on a food that is raw, has never been frozen or heated, and contains no preservatives.

"Fresh frozen," "frozen fresh," and "freshly frozen" may be used for foods that are quickly frozen while still fresh. Blanching (brief scalding before freezing to prevent nutrient breakdown) is allowed.

Other uses of the term "fresh," such as "fresh milk" or freshly baked bread," are not affected.

HANDOUT D3 *continued*

SPECIFIC LABELING TERMS FOR CERTAIN NUTRITION COMPONENTS

FAT AND CHOLESTEROL	*Low Fat*	3g or less per serving
	Low Saturated Fat	1g or less per serving
	Low Cholesterol	<20mg per serving
	Percent Fat-Free	Must be a low-fat or fat-free product and must accurately show amount of fat present in 100g of food. Example: if 50g of a food contains 2.5g fat, it may be labeled "95% fat-free."
SODIUM	*Sodium-Free*	<5mg per serving
	Very Low Sodium	35mg or less per serving
	Low Sodium	140mg or less per serving
	Unsalted, No Salt Added, Without Salt Added, Salt-Free	no salt added during processing
CALORIES	*Low-Calorie*	40 calories or less per serving and 0.4 calories or less per gram
MEAT AND POULTRY FAT	*Extra Lean*	<5g fat, <2g saturated fat, and <95mg cholesterol per serving/per 100g.
	Lean	<10g fat, <4g saturated fat, and <95mg cholesterol per serving/per 100 g.

HANDOUT D4

INGREDIENT LISTS

Ingredient lists must be included on all foods that have more than one ingredient. The Food and Drug Administration now requires full ingredient labeling on so-called "standardized foods," or those which are called a particular name (such as mayonnaise or ketchup), and contain certain mandatory ingredients.

Many people are allergic to additives, so any additives used in products must be listed on product labels. The following are specific additives included in those to be listed:

- **FDA-certified color additives, by name, such as FD&C Yellow #5 or FD&C Blue #1.**
- **Sources of protein hydrolysates, which are used in many foods as flavors and flavor enhancers. If flavors are artificial, this must be stated.**
- **Caseinate as a milk derivative in foods that claim to be non-dairy, such as coffee whiteners.**

The ingredient present in the *largest* amount by weight must be listed first, followed in descending order of weight by the other ingredients. **Example below: Sugar, corn, wheat and oat flour, salt, etc.**, would mean that sugar is present in the largest amount, followed by the other ingredients, with **BHA** present in the smallest amount. Such information *will not* provide the consumer with specifics on the difference in the amount of one ingredient over another.*

Ingredients: sugar, corn, wheat and oat flour, salt, corn syrup, dried apples, cinnamon, partially hydrogenated vegetable oil (contains one or more of the following: palm oil, cottonsed oil, or corn oil), sodium ascorbate (C), natural apple flavorings, Vitamin A palmitate, artificial coloring, niacinamide, ascorbic acid (C), baking soda, reduced iron, zinc oxide, thiamin hydrochloride (B1), pyridoxine hydrochloride (B6) riboflavin, folic acid and Vitamin D2. BHA added to preserve freshness.

*Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

HANDOUT D5

NUTRITION FACTS

The FDA requires manufacturers to provide nutrition information on the label for any food to which a nutrient has been added, or any food for which a nutritional claim has been made. The label must have certain information listed in a specific order. New labeling laws bring a new title to the nutrition panel: **"Nutrition Facts,"** replacing the *old* heading, "Nutrition Information Per Serving." The new name will signal consumers that the product label meets the new FDA regulations. Bottom left is a sample label from the FDA (1992):

FROZEN MIXED VEGETABLES IN SAUCE

Nutrition Facts

Serving Size 1/2 cup (114g)
Servings Per Container 4

Amount Per Serving	
Calories 90	Calories From Fat 30
	% Daily Value*
Total Fat 3g	**5%**
Saturated Fat 0g	**0%**
Cholesterol 0mg	**0%**
Sodium 300mg	**13%**
Total Carbohydrate 13g	**4%**
Dietary Fiber 3g	**12%**
Sugars 3g	
Protein 3g	
Vitamin A 80% •	Vitamin C 60%
Calcium 4% •	Iron 4%

* Percent Daily Values based on a 2000-calorie diet. Your daily values may be higher or lower depending on your calories needs:

	Calories	1500	2000
Total Fat	Less than	49g	65g
Sat. Fat	Less than	15g	20g
Cholesterol	Less than	225mg	300mg
Sodium	Less than	1800mg	2400mg
Total Carbohydrate		225g	300g
Fiber		23g	30g

Calories per gram:
Fat 9 • Carbohydrates 4 • Protein 4

Serving Sizes are now more consistent across product lines, and reflect the amounts people actually eat.

Calories from fat are now shown on the label to help consumers meet dietary guidelines that recommend people get no more than 30% of daily calories from fat.

The **list of nutrients** covers those most important to the health of today's consumers, most of whom need to worry about getting *too much* of items such as fat and sodium, rather than too few vitamins and minerals.

% Daily Value shows how a food fits into the overall daily diet. Some values are maximums *(65 grams fat or less)*; others are minimums *(300 grams carbohydrate or more)*.

The label will now tell the **number of calories per gram** of fat, carbohydrates, and protein.

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HANDOUT D6

WHICH CEREAL IS THE BETTER BUY?

#1

Ingredients: sugar, corn, wheat and oat flour, salt, corn syrup, dried apples, cinnamon, partially hydrogenated vegetable oil (contains one or more of the following: palm oil, cottonseed oil, or corn oil), sodium ascorbate (C), natural apple flavorings, Vitamin A palmitate, artificial coloring, niacinamide, ascorbic acid (C), baking soda, reduced iron, zinc oxide, thiamin hydrochloride (B1), pyridoxine hydrochloride (B6) riboflavin, folic acid and Vitamin D2. BHA added to preserve freshness.

#2

Ingredients: 100 percent whole wheat, BHT added to the packing to preserve freshness.

WHERE DO CALORIES COME FROM?

8 grams of protein x 4 calories per gram = _____ calories from protein per serving

11 carb. x 4 calories per gram = _____ calories from carbohydrate per serving

8 g fat x 9 calories per gram = _____ calories from fats per serving

TOTAL calories per serving = _____

WHOLE MILK

NUTRITION FACTS

SERVING SIZE.....ONE CUP
SERVINGS PER CONTAINER 8

AMOUNT PER SERVING

CALORIES.....148
CALORIES FROM FAT.....72

% DAILY VALUE

TOTAL FAT 8G.....12%
SODIUM 125MG.....5%
CARBOHYDRATE 11G 4%
PROTEIN 8G

VITAMIN A.....4%
VITAMIN C.....4%
CALCIUM.....30%
VITAMIN D.....25%

1G FAT= 9 CALORIES
1G CARBOHYDRATE = 4 CALORIES
1G PROTEIN = 4 CALORIES

Adapted from Nutrition Services, Allegheny County Health Department, 1988

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HANDOUT D7

NUTRIENT DENSITY

Use food labels to determine which foods provide the most nutrients for the fewest calories. For instance, which of these products is the better buy?

#1

NUTRITION FACTS

SERVING SIZE = 1 oz.
SERVINGS PER CONTAINER = 12

AMOUNT PER SERVING

CALORIES 110
CALORIES FROM FAT 0

% DAILY VALUE

TOTAL FAT 0G 0%
SATURATED FAT 0G 0%
CHOLESTEROL 0G 0%
SODIUM 0G 0%
CARBOHYDRATE 24G 1%
PROTEIN 2G

THIAMINE 8% • NIACIN 2%

*Contains less than 2 percent of U.S. RDA for Vitamin A, Vitamin C, Riboflavin, Calcium and Iron.

#2

NUTRITION FACTS

SERVING SIZE 4 oz.
SERVING PER JAR 3.75

AMOUNT PER SERVING

CALORIES 50
CALORIES FROM FAT 9

% DAILY VALUE

FAT 1G 1%
CHOLESTEROL 0G 0%
SODIUM 220 MG 9%
CARBOHYDRATE 7G 2%
PROTEIN 3G

RIBOFLAVIN 4% • IRON 6%
VITAMIN A 15% • NIACIN 4%
VITAMIN C 15% • THIAMIN 4%
CALCIUM 2%

Adapted from Nutrition Services, Allegheny County Health Department, 1988

HANDOUT E

Nutrient Sources

Protein

Milk, Peas, Ice milk, Tofu, Ice cream, Beans, Yogurt, Lentils, Poultry, Cheese, Meat, Fish, Peanut butter, Whole grain bread, Nuts: walnuts, peanuts, almonds, cashews

Vitamin A

Tomatoes, Liver, Carrots, Hot peppers, Broccoli, Apricots, Mango, Papaya, Cantaloupe, Pumpkin, Winter squash, Watermelon, Sweet potatoes, Dark leafy greens: beet greens, collards, kale, spinach, mustard greens, swiss chard, turnip greens

Iron

Prune juice, Nuts, Dried fruits, Red meats, Shrimp, Chili powder, Sardines, Clams, Oysters, Liver, Heart, Kidneys, Beans, Lentils, Peas, Tomato juice, Dark leafy green vegetables, Whole grain cereals, Green vegetables

Calcium

Milk (all), Salmon, Ice cream, Oysters, Ice milk, Sardines, Cheese, Rhubarb, Yogurt, Almonds, Dark leafy green vegetables, Beans, Lentils, Cottage cheese, Tofu

Iodine

Seafoods, Iodized Salt, All foods grown along coastal regions (not Midwest)

Vitamin C

Oranges & juice, Grapefruits & juice, Tangerines & juice, Cranberry juice, Tomatoes, Avocado, Papaya, Asparagus, Broccoli, Parsley, Mango, Guava, Raspberries, Green peas, Blackberries, Sauerkraut, Strawberries, Turnips, Cantaloupe, Cabbage, Honeydew melon, Cauliflower, Watermelon, Green Pepper, Potatoes: white & sweet, Brussel sprouts, Dark leafy greens, Kohlrabi

Folic Acid

Brewers yeast, Liver, Beans, Bananas, Oranges, Tomatoes, Wheat germ, Soybeans, Milk, Romaine, Eggs, Spinach, Whole grain breads & cereals, Crisp head lettuce

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

HANDOUT F

RECOMMENDED EATING PLAN

MILK

Recommended amount: 16 ounces per day (32 ounces for pregnant women).

Adult portions: one cup milk, one cup yogurt, one to one and one-half ounces cheese.

Children's portions: one-half to three-fourths cup milk, one-half to three-fourths cup yogurt, three-fourths to one ounce cheese.

Healthy tips: Since children take in smaller portions, they need more frequent servings to meet their total needs. Though milk is important, don't overemphasize it and displace other important nutrient-rich foods.

BREADS AND WHOLE GRAINS

Recommended number of servings: six.

Adult portions: one slice bread, one cup ready-to-eat cereal, one-half cup pasta.

Children's portions: one-half to three-fourths slice of bread, one-half cup ready-to-eat cereal, and one-fourth to one-third cup pasta.

Healthy tips: oatmeal, whole wheat bread, whole wheat muffins, brown rice, graham crackers, and buckwheat pancakes.

FRUIT

Recommended number of servings: two.

Adult portions: one apple, one-half banana, one-half cup juice, one-half cup sliced peaches.

Children's portions: one-half apple, one-half banana, one-fourth cup sliced peaches, one-half cup juice.

Healthy tip: use fruit juices rather than fruit-flavored drinks, which contain added sugar and higher calories.

VEGETABLES

Recommended number of servings: three.

Adult portions: one-half cup.

Children's portions: one-fourth to one-third cup.

Healthy tips: include all types (dark green, deep yellow, starchy). Many children dislike vegetables, but encourage them to eat some. Don't allow them to fill up on favorite foods (breads, fruit) to the exclusion of vegetables.

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA. 1988

PROTEINS

Recommended number of servings: two to three (total three to four ounces lean).

Adult portion: two to three ounces lean meat.

Children's portion: one to two ounces lean meat.

Healthy tips: Serve meat, fish, poultry, and eggs. Avoid processed lunch meats such as bologna and hot dogs, which are high in fat and low in iron, minerals, vitamins, and protein. Read labels.

FATS AND SUGARS

The recommended daily limit for fat intake is no more than 30 percent of the total number of calories. Calorie intake and need varies widely according to age, sex, body size, level of activity and metabolic factors. Most women should strive to keep fat intake below 50 to 67 grams, and men below 67 to 83. By reading labels, it becomes easy to determine the amount of fat contained in certain foods.

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA. 1988

HANDOUT G

INSTEAD OFs . . .
MODIFYING RECIPES TO REDUCE CALORIES, FAT, AND SUGAR

Many people are modifying their diets to reduce the risk of chronic diseases. Simple changes to recipes can help you modify the fat, calories, and sugar in your diet.

There are four ways to modify recipes without cutting taste:

1. Reduce an ingredient.
2. Eliminate an ingredient.
3. Change preparation method.
4. Substitute more suitable ingredients.

Reduce an Ingredient. Fats and sugars can be reduced by one-fourth to one-third of the amount called for in recipes, except when sugar is used as a preservative (jams, jellies).

Eliminate an Ingredient. To cut calories, reduce fat in recipes where it is present for taste and not for structure. For example, gravy can be made from broth and flour, but pastry becomes tough when the fat is reduced.

Change Preparation Method. Instead of frying foods, bake, broil, stir-fry, steam, simmer, or saute in broth or juice. Serve smaller portions and use nonstick pans or nonstick vegetable sprays in place of fats.

Substitute More Suitable Ingredients. The chart on the following pages notes in detail many ways that you can substitute more suitable ingredients to cut calories, fat, and sugar.

IF RECIPE CALLS FOR . . .	USE INSTEAD . . .
Dairy	
Whole milk cheeses	• Part-skim cheese such as mozzarella and farmer cheese • Reduced fat cheeses
Cottage cheese	• Low-fat cottage cheese
Cream cheese	• Whipped cream cheese • 1 cup low-fat cottage cheese mixed with 4 Tbsp. softened margarine and 1 Tbsp. skim milk. Whirl in blender until smooth. • Farmer cheese • Light cream cheese • Low-fat or part-skim ricotta cheese
Cream, light, 1 cup	• Evaporated skim milk, 1 cup, undiluted • Whole milk, 1 cup

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

IF RECIPE CALLS FOR . . .	USE INSTEAD . . .
Whipped cream, 1 cup	• 1/2 c. cold fruit juice or water, 1/2 c. nonfat dry milk powder, and 1 Tbsp. lemon juice in a chilled bowl. Whip with beater until stiff. • 2 egg whites beaten until stiff. Add 2 medium sliced bananas and beat again until banana is completely dissolved. Serve immediately. • 1/3 cup evaporated skim milk, 1 Tbsp. lemon juice, 2 to 4 Tbsp. sugar. Chill evaporated milk for 12 hours. Whip in chilled bowl with cold beaters until stiff peaks form. Add lemon juice and sweeten with sugar.
Sour cream, 1 cup	• Low-fat or nonfat plain yogurt, 1 cup; best for salad dressing. • 3/4 cup low-fat cottage cheese, 3 Tbsp. skim milk, and 1 Tbsp. lemon juice blended together. Use as spread or dip. • 1 Tbsp. plain low-fat yogurt, 1 Tbsp. cornstarch, blended together. Add 1 cup low-fat or nonfat yogurt. Use in dishes that require heat (e.g., Stroganoff).
Coffee Creamer	• Evaporated *skim* milk, undiluted • 1 cup nonfat dry milk and 1 cup water combined
Evaporated milk	• Evaporated *skim* milk
Whole milk	• Low-fat or skim milk • 1/3 cup nonfat dry milk and 1 cup water to make 1 cup
Ice cream	• Ice milk • Sherbet or frozen yogurt • Low-calorie frozen desserts
Fruits/Vegetables	
Vegetables w/ sauce or butter	• Vegetables sauteed in wine, cooked long enough to allow the alcohol to evaporate. • Plain frozen or fresh vegetables seasoned with herbs and lemon juice. • Steamed vegetables for better flavor. • Vegetables seasoned with a few drops of sesame oil or grated cheese.

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

IF RECIPE CALLS FOR . . .	USE INSTEAD . . .
French fries	• Strips of raw potato sprinkled with oil or coated with cooking spray. Bake at 450°F for 30 minutes.
Croutons for Salad	• Homemade croutons, made by spreading sliced bread thinly with margarine. Sprinkle with garlic powder, cut in cubes and toast.
Salad dressing	• No-oil salad dressings
Baked potato/sour cream	• Baked potatoes served with stewed tomatoes, seasoned sour cream substitute or parmesan cheese.
Protein	
Beef	• Well-trimmed lean cuts (these are sirloin tip, eye of the round, round steak, chuck with round bone, flank steak, tenderloin, lean stew meat, and lean ground beef). • Broiled, baked or roasted meats using a rack to drain off fats.
Hamburger	• Rinsed and drained cooked hamburger, using a sieve or colander. Add to casseroles or soup.
Pork, well-marbled	• Pork loin or tenderloin, center-cut ham and Canadian bacon.
Processed Meats (bologna, salami, sausage, hot dogs)	• Fresh meats and poultry • Boiled ham, baked Virginia ham, roast beef, sliced turkey or chicken.
Eggs (1)	• 2 egg whites • 2 Tbsp. flour, 1 and 1/2 tsp. oil, 1/2 tsp. baking powder (for baking purposes).
Fish, oil-packed	• Fish, water-packed
Meat Stocks	• Reduced calorie stock made by using a gravy separator to pour off fat-free liquid. • Reduced calorie stock made by refrigerating stock until fat rises to top and solidifies. Lift off and discard.

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

IF RECIPE CALLS FOR . . .	USE INSTEAD . . .
Poultry (Roasters, hens, capons)	• Skinned, defatted poultry (remove fat and skin) • For soup, use the skin to flavor broth but skim fat off broth before serving. • Poultry basted with orange, white grape, or apple juice with a splash of soy sauce and baked in aluminum foil to hold in moisture.
Poultry Stuffing	• Stuffing moistened with broth rather than margarine.
Gravy or Sauce	• Cold milk, broth or juice slowly added to flour or cornstarch. Blend and stir over medium heat until mixture comes to a boil. Add herbs and spices.
Baked Products	
Baking chocolate, 1 oz., unsweetened	• 1 to 3 Tbsp. cocoa powder and 2 Tbsp. liquid to recipe
Cakes, cookies, muffins, nut breads, fruit breads	• Add 1/4 to 1/3 less oil, margarine or shortening, replacing the fat with juice, water, or milk. • 1/4 to 1/3 less sugar while doubling the amount of extract (vanilla, etc.)
Cracker crumbs, 1 cup	• Crushed dry bread crumbs, 1 and 1/3 cups
2-crust Pies/Pastries	• 1 crust pies OR • Crumb crusts (graham cracker, cereal, gingersnaps) made with 1/3 less fat
Butter or margarine, 1/2 cup	• 1/3 cup vegetable oil

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CHOLESTEROL CONCERNS

The most effective way to reduce blood-cholesterol levels is to reduce the total amount of fat in your diet. Therefore, the suggestions in this handout are valuable for those concerned about cholesterol. Remember that cholesterol is found only in animal foods. Saturated fats (fat from animal sources) tend to raise blood cholesterol levels, whereas polyunsaturated and mono-unsaturated vegetable oils tend to lower blood cholesterol levels.

HANDOUT H

RECIPE MODIFICATION

What would you change to make this recipe lower in calories? Rewrite the modified recipe at the right.

ORIGINAL RECIPE: BROWNIES	MODIFIED RECIPE: BROWNIES
2 ounces unsweetened chocolate	
1/3 cup butter	
1 cup sugar	
2 eggs	
1/2 teaspoon vanilla	
1/2 teaspoon baking powder	
1/2 cup flour	
1/2 teaspoon salt	
1/2 cup chopped nuts	

DIRECTIONS

1. Melt butter.
2. In a large bowl, combine butter, sugar, eggs, flour, salt, baking powder, and chocolate.
3. Stir in vanilla and walnuts.
4. Spread batter evenly in a well-greased 8 x 8 x 2-inch baking pan.
5. Bake at 350°F for 30 minutes, or until done.
6. Cool in pan on wire rack.
7. Cut into 2-inch squares while warm.

Makes 16 servings.

Calories per serving = 146

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

HANDOUT I

INEXPENSIVE COMBINATIONS THAT PROVIDE HIGH-QUALITY PROTEIN

Certain foods combined provide protein of higher quality than the protein in either food separately. Here are some combinations of foods that complement each other:

COMBINATIONS	EXAMPLES
Rice and beans	Beans and rice Rice and bean casserole Hopping John (rice and black-eyed peas)
Rice and milk	Rice cereal with milk Cheese and rice souffle Rice pudding Rice and cheese casserole
Rice and lentils	Rice and lentil casserole
Wheat products with milk/cheese	Macaroni and cheese Cereal with milk Cheese sandwich Lasagna
Wheat and beans	Baked beans with wheat bread Baked beans with brown bread
Cornmeal and beans	Corn tortilla and beans Corn bread and navy beans Tamale pie
Beans and milk	Succotash (lima beans, corn, milk) Bean chowder Lentil soup and glass of milk Beans and cheese Bean salad and cottage cheese Split pea soup
Peanuts, milk, and wheat	Peanut butter sandwich and glass of milk
Potatoes and milk	Cream of potato soup Scalloped potatoes Potato pancakes

Courtesy of the American Red Cross

HANDOUT J .

SENSE ABOUT SODIUM

Daily Value (DV) Sodium (2000 mg = 1 tsp.)
For 2,000 calorie diet = < 2400 mg.
For 1,500 calorie diet = < 1800 mg.

Where Is Sodium?	Where is Sodium (NOT!)?
Frozen dinners, salad dressings	Fresh and plain frozen vegetables
Canned vegetables and soups	Cereals, pasta, & rice w/o added salt
Cheese, processed meats	Milk and yogurt
Soy sauce, pickles, olives, catsup, mustard	Fresh meat, poultry, and fish
Salted chips, crackers, pretzels, nuts in foods	
Any added salt	Check labels for the amount of sodium and choose items that are lower.

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Label Liability (per serving)

Sodium Free - less than 5 mg

Very Low Sodium - 35 mg or less

Low Sodium - 140 mg or less

Reduced Sodium - amount reduced by 75 percent compared to similar product.

Unsalted, No Salt Added, Without Added Salt, and Salt Free - no salt added during processing.

Adapted from Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

ANSWER KEY TO HANDOUTS D_6 AND D_7

WHICH CEREAL IS THE BETTER BUY?

According to the ingredient list, sugar is the ingredient present in the largest amount in cereal #1, making it a poor choice.

WHERE DO CALORIES COME FROM?

8 grams of protein x 4 cal/gram = 32 calories from protein per serving

11 grams of carbohydrates x 4 cal/gram = 44 calories from carbohydrates per serving

8 grams of fat x 9 cal/gram = 72 calories from fat per serving

TOTAL: = 148 calories

NUTRIENT DENSITY

Examining the caloric content per serving and the percent Daily Value provided, #2 provides more nutrients for fewer calories.

ANSWER KEY TO HANDOUT H

RECIPE MODIFICATION

What would you change to make this recipe lower in calories? Rewrite the modified recipe at the right.

ORIGINAL RECIPE: BROWNIES	MODIFIED RECIPE: BROWNIES
2 ounces unsweetened chocolate	2 tablespoons unsweetened cocoa
1/3 cup butter	1/4 cup margarine, melted + 1 tablespoon skim milk
1 cup sugar	2/3 cup brown sugar, firmly packed
2 eggs	1 egg
1/2 teaspoon vanilla	1 teaspoon vanilla
1/2 teaspoon baking powder	same
1/2 cup flour	same
1/2 teaspoon salt	omit
1/2 cup chopped nuts	1/3 cup chopped nuts

DIRECTIONS

1. Melt butter.
2. In a large bowl, combine butter, sugar, eggs, flour, salt, baking powder, and chocolate.
3. Stir in vanilla and walnuts.
4. Spread batter evenly in a well-greased 8 x 8 x 2-inch baking pan.
5. Bake at 350°F for 30 minutes, or until done.
6. Cool in pan on wire rack.
7. Cut into 2-inch squares while warm. Makes 16 servings.

Calories per serving = 146

1. Melt margarine
2. In a large bowl, combine margarine, skim milk, sugar, egg, flour, baking powder, and unsweetened cocoa.
3. Stir in vanilla and walnuts.
4. Spread batter evenly in a nonstick, 8 x 8 x 2-inch baking pan.
5. Same
6. Same
7. Same

Calories per serving = 96

Nutrition Services, Allegheny County Health Department, Pittsburgh, PA, 1988

RESOURCES FOR TEACHERS AND STUDENTS

Better Eating for Better Health, 1984
The American National Red Cross
431 18th Street Northwest
Washington, DC 20006
Includes booklets broken down by age group/pregnancy, food tables, and participant's guide.

Why Weight?, 1988
By Lisa M. Haabestad, R.D.
and Susan B. Cameron, R.D.
Nutrition Services, Allegheny Co. Health Dept.
Investment Building, 1st Floor
Pittsburgh, PA 15222
Includes nutritional guidelines, dangers of fad diets, sound weight-loss advice, tips for consumers, and instructor's guide.

A Smart Start, 1988
Division of Nutritional Sciences
Cornell University
Ithaca, NY
Available from local county Cornell Cooperative Extension office. Part of **Nutrition for Life** curriculum for grades 9-12. Focuses on nutritional information for adolescent mothers.

Modifying Recipes for Better Health
Cooperative Extension
Room 200, Gifford Building
Colorado State University
Fort Collins, CO 80523
Detailed instructions for modifying recipes by reducing fat, sugar, and sodium.

Cornell Cooperative Extension
Albany County
William Rice, Jr. Extension Center
Martin Road
PO Box 497
Voorheesville, NY 12186-0497
(Check for nearest county office)
Good source for many kinds of information on nutrition and home economics.

Order Department, National Dairy Council
6300 North River Road
Rosemont, IL 60018-4233
A source of cardboard food models.

"Diet, Exercise, & Health"
Dairy Council Digest, Vol. 56, May-June 1985.

"Hunger is More Than an Empty Stomach"
FDA Consumer, February 1984.

National Health Video, Inc.
12021 Wilshire Boulevard, Suite 550
Los Angeles, CA 90025
(310) 472-2275/FAX 476-0503

Publications
NYS Department of Health
Box 2000
Albany, NY 12220

Eat Smart with Fruits and Vegetables
American Cancer Society, 1988
1-800-ACS-2345

GLOSSARY

Acne	inflammation of the oil glands of the skin, producing pimples.
Adolescent	between childhood and maturity.
Anemia	lack of red corpuscles or hemoglobin in blood.
Antibodies	a protein formed in the blood in reaction to certain substances which it then attacks and destroys.
Appetite Suppressant	a substance which puts an end to one's desire to eat.
Arthritic	suffering from a condition causing inflammation, pain, and stiffness in the joints.
Bacteria	a microscopic organism which often carries germs of disease.
Balanced	an even distribution of amount.
Botulism	a kind of food poisoning.
Budget	1. an estimate or plan of income and expenditure; 2. the amount allotted for a particular purpose.
Caffeine	a stimulant found especially in tea and coffee.
Calcium	a grayish-white element found in bones and teeth.
Calorie	a unit for measuring the energy value of food.
Carbohydrate	starchy foods, sometimes considered (often mistakenly) fattening.
Caregiver	person responsible for providing protection, charge, and supervision to a child.
Central Nervous System	the brain and the spinal cord.
Cholesterol	a fatty substance found in animal tissues, thought to cause hardening of the arteries.
Colon	the lower and greater part of the large intestine.
Concentrate	a substance made denser by removing some of its water, e.g., orange juice concentrate.
Consumption	the amount eaten or drunk, especially in large quantities.
Convenience Foods	foods that are easy to use or deal with, not troublesome (often higher in calories and less nutritious).
Coronary	relating to the heart.
Cured meats	meats preserved by salting, drying, or smoking (examples: ham, bacon, sausage, smoked turkey).
Dental cavity	hole within a tooth caused by poor dental hygiene (failure to brush or floss).
Diabetes	a disease in which sugar and starch are not properly absorbed by the body.
Diet	the sort of foods regularly eaten by a person.
Dilute	to thin down, to make a liquid less concentrated by adding water or other liquid.
Diuretic	causing more urine to be secreted (eliminating excess water from one's system).

Diverticulosis	inflammation of a tubular branch of a cavity or passage in the body, especially in the colon (large intestine).
Dose-related	directly connected with the overall amount of a medicine, drug, or substance one has taken.
Economics	the financial aspects of something.
Economical	thrifty, avoiding waste.
Empty-calorie	describing foods which have no nutritional value and are probably high in fat and calories.
Enriched	claiming to have improved quality due to the addition of things such as vitamins or minerals (not always an improvement).
Environmental	having to do with one's surroundings, especially those affecting people's lives.
Erratic	irregular or uneven in movement, quality, habit, etc.
Express	to press or squeeze out milk from a mother's breasts.
Fast	to go without food or without certain kinds of food.
Fat	a whitish or yellowish subtance, insoluble in water, found in animal bodies and certain seeds.
Fetus	a developing embryo in the womb, a human embryo.
Fiber	a thin strand of which animal or vegetable tissue is made.
Fluctuate	to vary irregularly, to rise and fall.
Folic acid	a vitamin of the B group, deficiency of which causes anemia.
Generic	an item not protected by a registered trademark (i.e., generic drug).
Genetic	of or relating to chemical units that carry hereditary characteristics from parent to child.
Gourmet	a connoisseur of good food and drink (often used as an adjective to describe foods which are especially fancy or rich).
Gristle	tough flexible tissue of animal bodies, especially in meat.
Health Professional	one with knowledge and advanced training regarding the state of being well and free from illness (i.e., doctor, nurse, chiropractor).
Heart Attack	sudden failure of the heart to function normally.
Hormone	a substance produced within the body and carried by the blood to an organ which it stimulates.
Hydrogenated Oil	unsaturated vegetable oil which is combined or treated with hydrogen to produce a solid fat.
Impulse Buys	items bought on sudden inclination and not because of previous planning.
Intrauterine Device	a contraceptive that is inserted and left in the uterus for a prolonged period of time.
Ketosis	a condition in which there is excessive formation of ketones, found in blood and urine when there is excessive oxidation of fatty acids by the liver, as in during starvation, pregnancy, or diabetes.
Lactation	the secreting of milk in breasts, the period in which this occurs.
Lean Meats	meat containing little or no fat.

Legumes	a plant which bears its seeds in pods, such as peas, peanuts, or beans (usually high in protein).
Maximize	to increase to the greatest amount of intensity.
Metabolism	the process by which food is built up into living material or used to supply energy in a living organism.
Microwave Oven	an oven that cooks with heat from microwave penetration of food (usually at a much faster rate than a conventional oven).
Muscle	a band or bundle of fibrous tissue able to contract and relax and so produce movement in an animal body.
Nausea	a feeling of sickness or disgust, usually in the stomach.
Nutrition	nourishment; the way to keep a person alive and well by means of food.
Osteoporosis	a bone disorder characterized by a reduction in bone density accompanied by increasing brittleness, found chiefly in women who have passed menopause.
Overeat	to consume more calories than the body needs.
Overemphasize	to give too much prominence to a fact or idea.
Physical	of or relating to the body.
Placenta	an organ that develops in the womb during pregnancy and supplies the fetus with nourishment.
Posture	an attitude of the body, the way a person stands or sits or walks.
Prescription	a health professional's written instruction for the composition and use of a medicine.
Processed foods	foods treated with preservatives or other chemicals to keep them from further ripening or deteriorating during storage; are widely thought to be unhealthy in bodily effects.
Protein	an organic compound containing nitrogen, occurring in plant and animal tissue and forming an essential part of the food of animals.
Psychological	of or affecting the mind and its workings.
Puberty	the stage at which a person's reproductive organs are in the process of becoming mature and become capable of producing offspring.
Ready-to-eat	foods requiring no preparation; generally less nutritious.
Refined sugars	sugars removed of impurities or defects.
Relapse	to fall back into a previous condition, or into a worse state after improvement.
Resource	something or someone to which one can turn for help or support or to achieve one's purpose.
Respiratory	of or involving breathing.
Secrete	to form and send out a substance into the body.
Soft drinks	soda pop or other non-alcoholic drinks, usually high in sugar.
Starch	a white carbohydrate that is an important element in human food.
Sterilize	to make sterile or free from germs or microorganisms.
Stroke	an attack of apoplexy or paralysis due to severe hemorrhage or infarction.

Unit pricing	pricing of articles according to a standard unit or unit price (as per pound or quart).
Uterus	the hollow organ in women in which a child is conceived and nourished while developing before birth; the womb.
Vigorous	full of active physical or mental strength; energy; flourishing physical condition.
Vitamins	any of a number of organic substances present in many foods and essential to the nutrition of humans and other animals.
Vitamin Supplements	usually in pill form, and added as an extra to make up for a deficiency.
Whole-grain	breads or cereals made from whole grain flour such as wheat, oat, or rye rather than enriched white flour.
Wholesale	the selling of goods in large quantities to be retailed by others (usually cheaper to buy this way if possible).

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